

WEATHER OF NORTH AMERICA AND ADJACENT OCEANS.

NORTH ATLANTIC OCEAN.

By F. A. Young.

The average pressure for November, 1922, was very much below the normal at land stations on the coasts of Newfoundland and Nova Scotia; it was slightly below on Nantucket Island, while at stations on the southern Atlantic coast of the United States, as well as in the Gulf of Mexico, West Indies, Azores, and Bermudas, the departures were small. In the British Isles, however, the positive departures were unusually large, due to two periods of abnormally high pressure, the first occurring from the 12th to 17th and the second from the 21st to the 27th. At London on the 16th the barometer recorded 30.8 inches, and the lowest reading during the two periods was 30.46 inches, on the 12th.

Judging from reports received, fog was somewhat less frequent than usual over the Grand Banks and steamer lanes, while the number of days on which it occurred was not far from the normal off the coast of New England and somewhat above in the vicinity of the British Isles.

Winds of gale force were unusually prevalent over the western and middle sections of the steamer lanes, and during the first part of the month they also occurred off the coast of Europe, and in the last decade over the region between the Bermudas and the American coast.

According to press reports a great deal of damage resulted from unusually heavy gales in European waters on the 1st and 2d. A number of fishing vessels were blown ashore on the coast of France, and some of the large transatlantic steamers were delayed several hours by the unfavorable weather conditions.

Storm logs are as follows:

Dutch S. S. Batjan:

Gale began on October 31, wind SW. Lowest barometer 29.85 inches at 2 p. m. on the 1st, wind SW., 9, in latitude 44° 55' N., longitude 8° 19' W. End on the 2d, wind WSW. Highest force of wind 9; shifts not given.

British S. S. Ventura de Larrinaga:

Gale began on the 1st, wind W, 6. Lowest barometer 29.32 inches, at 2 p. m. on the 1st, wind SSW, 9, in latitude 50° 33' N., longitude 0° 30' W. End on the 2d, wind WNW, 4. Highest force of wind 9, SSW.; shifts SSW-WSW.

Danish S. S. Frederick VIII:

Gale began on Oct. 31, wind NW. Lowest barometer 28.97 inches, at 4 p. m. on the 2d, wind W., 11, in latitude 58° 30' N., longitude 0° 50' W. End on the 3d, wind W. Highest force of wind 11; steady from west.

From the 2d to the 7th turbulent conditions also prevailed over the greater part of the steamer lanes north of the 40th parallel, as shown by the following storm logs:

British S. S. Ventura de Larrinaga:

Gale began on the 4th, wind SSE., 6. Lowest barometer 29.18 inches, at 4 p. m. on the 5th, wind W., 7, in latitude 50° 14' N., longitude 19° 34' W. End on the 6th, wind NW., 6. Highest force of wind 9, NW.; shifts W. by SW. by N.

American S. S. Scottsburg:

Gale began on the 3d, wind SW. Lowest barometer 29.22 inches, at 6 a. m. on the 4th, wind SW., 9, in latitude 47° 35' N., longitude 39° W. End at 8 p. m. on the 4th, wind NW. Highest force of wind 10, WSW.; shifts SW.-WSW.-W.-NW.

American S. S. Coldwater:

Gale began on the 3d, wind NW. Lowest barometer 29.12 inches at 4 p. m. on the 2d, wind NW., 6, in latitude 47° N., longitude 46° W. End on the 4th, wind NNW. Highest force of wind 10, NNW.; shifts NW.-W.-NW.

British S. S. New York City:

Gale began on the 6th, wind W. Lowest barometer 29.32 inches at 7:35 p. m. on the 6th, wind WSW., 7, in latitude 44° N., longitude 51° 36' W. End on the 7th, wind NNW. Highest force of wind 9; shifts WSW.-W.-NW.

The strong gales that prevailed over the central portion of the steamer lanes from the 10th to the 14th, were responsible for the loss of the Italian S. S. *Monte Grappa* that was abandoned on the 15th near latitude 44° N., longitude 40° W.

Storm logs follow:

Swedish S. S. Braheholm:

Gale began on the 10th, wind SSW. Lowest barometer 29.49 inches at 8 p. m. on the 10th, wind SW., 8, in latitude 53° 36' N., longitude 31° 45' W. End on the 12th, wind WSW. Highest force of wind 10; shifts SW.-SW. by W.

Swedish S. S. Braheholm:

Gale began on the 14th, wind SSW. Lowest barometer 29.92 inches at 8 a. m. on the 14th, wind SSW., 8, in latitude 50° 30' N., longitude 42° W. End on the 15th, wind WNW. Highest force of wind 10; shifts SSW.-SW.

On the 13th there was also a fairly well developed area of low pressure over the western section of the ocean as shown by following storm logs:

British S. S. Cheyenne:

Gale began on the 12th, wind W. Lowest barometer 29.74 inches at 4 a. m. on the 13th, wind NW., 7, in latitude 42° 31' N., longitude 59° 14' W. End on the 13th, wind NNW. Highest force of wind 10; shifts NW. by W.-NW.

British S. S. Saint Andrew:

Gale began on the 13th, wind SW., 7. Lowest barometer 29.80 inches at midnight on the 13th, wind SW., 9, in latitude 35° 47' N., longitude 48° 50' W. End at 10 a. m. on the 14th, wind NW., 6, Highest force of wind 9; shifts SW.-NW.

From the 13th to the 17th an area of low pressure of moderate intensity covered the West Indies, which, according to reports received, was not attended by any unusual weather conditions.

From the 15th to the 18th unusually high pressure prevailed over the eastern end of the steamer lanes, and the observer on board the British S. S. *Oxonian* reported a barometer reading of 31 inches (uncorrected) on the 17th in latitude 50° N., longitude 23° W.

On the 18th winds of gale force were reported from the region between the forty-fifth and fiftieth parallels and the 35th and 45th meridians. Storm log:

British S. S. Maine:

Gale began on the 17th, wind SSE. Lowest barometer 29.90 inches at 11 p. m. on the 18th, wind SSE., in latitude 46° 42' N., longitude 41° 07' W. End on the 18th, wind N. Highest force of wind 9; shifts SW.-NW.

Charts VIII to XI show the conditions from the 22d to 25th, inclusive, when strong gales prevailed over different sections of the ocean, while on the 23d there was a "norther" in the Gulf of Mexico, accompanied by comparatively high barometric readings.

British S. S. Maine:

Gale began on the 21st wind ESE. Lowest barometer 28.74 inches at 4 a. m. on the 22d, wind WSW., in latitude 42° 40' N., longitude 56° 45' W. End on the 23d, wind NNW. Highest force of wind 11; shifts WSW.-WNW.

British S. S. Huntsman:

Gale began on the 23d, wind NW. Lowest barometer 29.66 inches at 4 a. m. on the 23d, wind NW., 6, in latitude 31° 52' N., longitude 62° 58' W. End on the 24th, wind NW. Highest force of wind 9; shifts WNW.-NW.

American S. S. Sapinero:

Gale began on the 23d, wind WSW. Lowest barometer 29.22 inches at 10:30 p. m. on the 23d, wind SW., 10, in latitude 36° 30' N., longitude 47° 55' W. End on the 24th, wind NW. Highest force of wind 10, SW.; shifts WSW.-W.

American Schr. Frank A. Morey:

Gale began on the 23d, wind SSE. Lowest barometer 29.50 inches at 4 p. m. on the 24th, wind NW., in latitude 40° 50' N., longitude 73° W. End on the 26th, wind N. Highest force of wind 10; shifts not given.

Dutch S. S. Leersum:

Gale began on the 24th, wind SE. Lowest barometer 29.15 inches at 8 p. m. on the 24th, in latitude 47° 20' N., longitude 38° 10' W. End on the 25th, wind W. Highest force of wind 11; shifts S.-W.

British S. S. Idaho:

Gale began on the 24th, wind S. Lowest barometer 28.96 inches on the 25th, wind W., 10, in latitude 45° 41' N., longitude 52° 41' W. End on the 25th, wind W. Highest force of wind 10; steady from W.

American S. S. F. Q. Barstow:

Gale began on the 22d, wind NW. Lowest barometer 29.93 inches on the 22d, wind NW., 7, in latitude 22° 30' N., longitude 94° 10' W. End on the 24th, wind N. Highest force of wind 9, N.; shifts NW.-N.

On the 26th and 27th, while there were no well developed depressions over the ocean, a number of sporadic reports were received from vessels that encountered winds of gale force.

The observer on board the British S. S. *Paul Pair* reports as follows:

From November 25 to December 6 between meridian 36° W., and Bermuda a series of moderate gales in quick succession, causing high confused seas, and irregular changes of wind, was experienced, accompanied by severe squalls. Barometer fluctuating between 29.58 and 30.22 inches.

On the 28th there was a well-developed disturbance central about 5° east of Charleston, S. C., that moved slowly northeastward, increasing in extent; on the 29th the center was near Sydney, N. S., while the storm area extended as far south as the 30th parallel.

On the 28th a second area of low pressure of less intensity and extent was central near latitude 47° N., longitude 35° W. This also apparently moved northeastward during the next two days, although it was impossible to locate its track accurately on account of lack of observations. Storm logs and reports referring to both of these disturbances follow:

American S. S. Chester Sun:

Gale began on the 27th, wind W. Lowest barometer 29.45 inches at 6:30 a. m. on the 28th, wind W., in latitude 31° 52' N., longitude 75° 03' W. End on the 29th, wind NNE. Highest force of wind 10; shifts about 10 points.

American S. S. Maracaibo:

7 p. m. on the 27th, in latitude 33° 20' N., longitude 73° 10' W., barometer 29.70 inches, wind NW., 7; weather, cloudy.

7 a. m. on the 28th, in latitude 31° 50' N., longitude 71° 20' W., barometer 29.62 inches, wind SSW., 10; weather, raining.

7 p. m. on the 28th, in latitude 31° 40' N., longitude 71° 10' W., barometer 29.56 inches, wind WSW., 11; weather, raining.

7 a. m. on the 29th, in latitude 30° 10' N., longitude 70° 45' W., barometer 29.98 inches, wind NNW., 7; weather, cloudy. Lowest barometer 29.48 inches at 4 p. m. on the 28th.

French S. S. Roma:

Gale began on the 28th, wind S. Lowest barometer 29.32 inches at 11 a. m. on the 29th, wind S., in latitude 38° 48' N., longitude 58° 30' W. End on the 29th, wind WNW. Highest force of wind 10, S; shifts S.-NNW.

German S. S. Bayern:

Gale began on the 28th, wind SSE. Lowest barometer 29.55 inches at 5 p. m. on the 30th, wind S., 10, in latitude 47° 21' N., longitude 38° 35' W. End on the 20th, wind W. Highest force of wind 10, S.; shifts S.-W.

Norwegian S. S. Foldenford:

Gale began on the 29th, wind SE. Lowest barometer 29.13 inches at 1:30 p. m. on the 30th, wind S., 10, in latitude 42° 18' N., longitude 55° 56' W. End on the 30th, wind NW. Highest force of wind 11; shifts S.-W.

NORTH PACIFIC OCEAN.

By WILLIS E. HURD.

The weather over the North Pacific Ocean during November, 1922, indicates the usual increase of storm activity natural to the advancement of the season over the northern area. The comparatively few reports at hand would indicate a quite persistent area of high pressure over the China coast and some storm activity to the eastward and over Japan, especially on the 1st to 4th, 7th to 11th, 18th to 24th, and 24th to 27th. At least three of the four more active storms occurring during these periods were of tropical origin, but they seem to have developed no material energy until well into higher latitudes.

The first of these storms apparently originated near Guam about October 28. Its center was east of Japan on November 1, and on the 2d and 3d was causing gales to the eastward of the Kurils. The Canadian S. S. *Canadian Inventor*, bound from Moji to Victoria, was involved in this storm on the 2d, 3d, and early morning of the 4th, between latitudes 43° 50' and 44° 50' N., longitudes 156° 55' and 160° E. Though the highest wind force she experienced was only 9, yet on the 2d her barometer showed a pressure, corrected, of 28.87 inches.

The cyclone of the 7th-11th apparently formed over the Asiatic continent, early disturbing the weather in the neighborhood of Japan, thence moving northeastward and merging with the Aleutian Low in Bering Sea on the 11th.

On the 18th a depression was observed to the southward of the Bonin Islands. On the 19th it was over Japan, and during the four or five following days moved northeastward, developing considerable energy. The American S. S. *West Kader* reported a force of 11 from the W., pressure 29.25, on the 23d in 42° 06' N., 150° 26' E.

The fourth storm of the Far East began as a tropical depression on or about the 24th, and strongly affected Japan on the 26th. On this and the following day several vessels reported strong westerly gales between Honshu and the 160th meridian of east longitude.

Along the northern steamship routes gales were of frequent occurrence throughout the month, and very few vessels accomplished a passage without encountering rough weather. On a voyage from Yokohama toward Victoria the British S. S. *Tyndareus* was in high seas from the 3d, in about 50° N., 165° W., until the 7th, in about 49½° N., 135° W. Until the 6th the observed gales in this area, force 7 to 11, were mostly from NW. to SW., with the center of activity fluctuating from the Aleutians to the Gulf of Alaska. During the 6th, however, the cyclone spread southward from the Gulf, giving lowered pressures along the coast from Sitka to San Francisco and southerly to easterly gales over much of the same region. The Japanese S. S. *Arabia Maru* reported a gale from the SE., force 11, near latitude 49° N., longitude 128° W., on the 3d.

About the 16th of the month a disturbance appeared near 35° N., 160° E. Near here on the 17th the British S. S. *Shabonee* encountered a southeasterly gale, force 11, with lowest corrected pressure, 29.66 inches. On the same date the American S. S. *Algonquin*, Capt. J. C.